“LAB # 7”

COURSE:

SOFTWARE CONSTRUCTION AND DEVELOPMENT LAB

INSTRUCTOR:

SIR MUHAMMAD SHAHZAD

SUBMITTED BY:

TANZEELA ASGHAR

ROLL NO:

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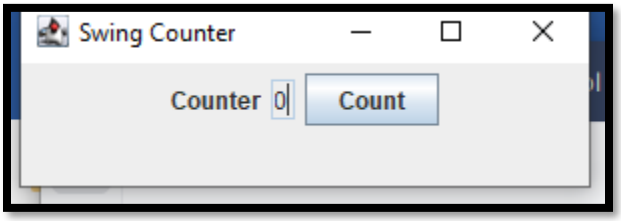
1. Swing counter:

Main.java | SimpleForm.java | SwingCounter.java

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
public class SwingCounter extends JFrame {
    4 usages
    private JTextField tfCount;
    3 usages
    private JButton btnCount;
    2 usages
    private int count = 0;
    1 usage
    public SwingCounter() {
        Container cp = getContentPane();
        cp.setLayout(new FlowLayout());
        cp.add(new JLabel( text: "Counter"));
        tfCount = new JTextField("0");
        tfCount.setEditable(false);
        cp.add(tfCount);
        btnCount = new JButton( text: "Count");
        cp.add(btnCount);
        btnCount.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent evt) {
                ++count;
                tfCount.setText(count + "");
            }
        });
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setTitle("Swing Counter");
        setSize( width: 300,  height: 100);
        setVisible(true);
    }
    public static void main(String[] args) {
        SwingUtilities.invokeLater(new Runnable() {
            @Override
            public void run() {
                new SwingCounter();
            } });
```

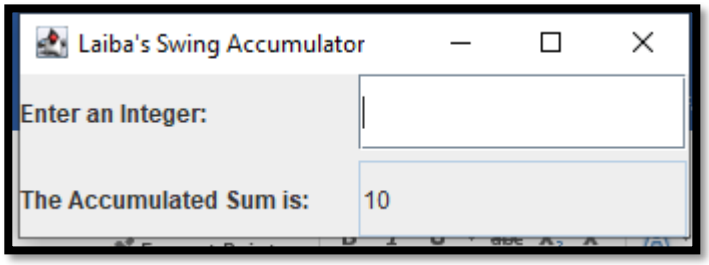


2. Swing Accumulator:

Main.java | SimpleForm.java | SwingCounter.java | SwingAccumulator.java

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;

public class SwingAccumulator extends JFrame {
    5 usages
    private JTextField tfInput, tfOutput;
    2 usages
    private int sum = 0;

    1 usage
    public SwingAccumulator() { Container cp = getContentPane();
        cp.setLayout(new GridLayout( rows: 2,  cols: 2,  hgap: 5,  vgap: 5));

        cp.add(new JLabel( text: "Enter an Integer: ")); tfInput = new JTextField( columns: 10); cp.add(tfInput);

        cp.add(new JLabel( text: "The Accumulated Sum is: ")); tfOutput = new JTextField( columns: 10); tfOutput.setEditable(false);
        cp.add(tfOutput);
        tfInput.addActionListener(new ActionListener() { @Override
        public void actionPerformed(ActionEvent evt) { int numberIn = Integer.parseInt(tfInput.getText()); sum += numberIn;
            tfInput.setText(""); tfOutput.setText(sum + "");
        }
        });
```

```
    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE); setTitle("Laiba's Swing Accumulator");
    setSize( width: 350,  height: 120); setVisible(true);
}
public static void main(String[] args) { SwingUtilities.invokeLater(new Runnable() { @Override
public void run() {
    new SwingAccumulator();
} });
} }
```

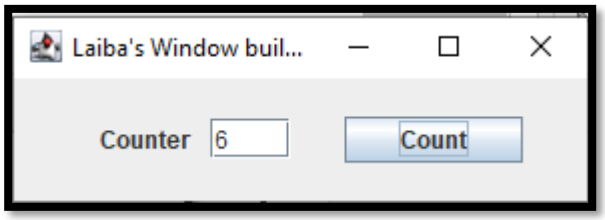


3. Window builder:

Main.java | SimpleForm.java | counter.java | SwingCounter.java | SwingAccumulator.java

```
1  import java.awt.EventQueue; import javax.swing.JFrame; import javax.swing.JPanel;
2  import javax.swing.border.EmptyBorder;
3  import javax.swing.JLabel;
4  import javax.swing.JButton;
5  import java.awt.event.ActionListener;
6  import java.awt.event.ActionEvent; import javax.swing.JRadioButton; import javax.swing.JTextField;
7
8  public class counter extends JFrame {
9
       7 usages
10     private JPanel contentPane; private JTextField textField; private int count =0;
11
12     /**
13      * Launch the application.
14      */
15     public static void main(String[] args) { EventQueue.invokeLater(new Runnable() {
16         public void run() {
17             try {
18                 counter frame = new counter(); frame.setVisible(true);
19             } catch (Exception e) {
20                 e.printStackTrace();
21
22             }}
23     });
```

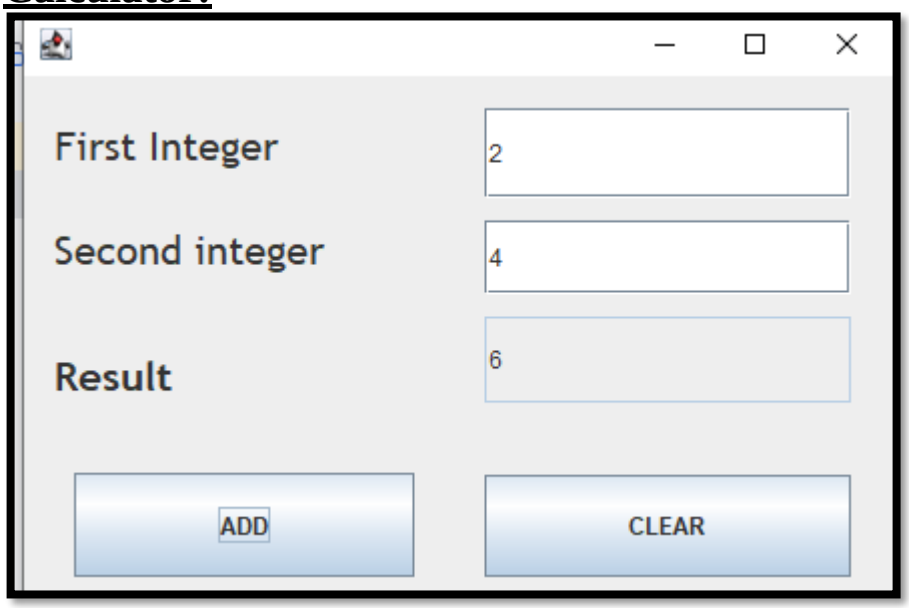
```java
public counter() {
    setTitle("Laiba's Window builder counter");
    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    setBounds( x: 100,  y: 100,  width: 302,  height: 100);
    contentPane = new JPanel();
    contentPane.setBorder(new EmptyBorder( top: 5,  left: 5,  bottom: 5,  right: 5));
    setContentPane(contentPane);
    contentPane.setLayout(null);
    JLabel lblNewLabel = new JLabel( text: "Counter");
    lblNewLabel.setBounds( x: 43,  y: 11,  width: 69,  height: 39);
    contentPane.add(lblNewLabel);
    textField = new JTextField();
    textField.setBounds( x: 98,  y: 20,  width: 40,  height: 20);
    contentPane.add(textField);
    textField.setColumns(10);
    JButton btnNewButton_1 = new JButton( text: "Count");
    btnNewButton_1.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            ++count; textField.setText(count + "");
        }
    });
    btnNewButton_1.setBounds( x: 165,  y: 19,  width: 89,  height: 23);
    contentPane.add(btnNewButton_1);
}
}
```



4. **Swing Adder:**


Main.java
SimpleForm.java
SwingAdder.java
1 usage
public SwingAdder() {
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setBounds(x: 100, y: 100, width: 450, height: 300);
contentPane = new JPanel();
contentPane.setBorder(new EmptyBorder(top: 5, left: 5, bottom: 5, right: 5));
setContentPane(contentPane);
contentPane.setLayout(null);
JLabel lblNewLabel = new JLabel(text: "First Integer");
lblNewLabel.setBounds(x: 15, y: 23, width: 152, height: 37);
lblNewLabel.setFont(new Font(name: "Trebuchet MS", Font.PLAIN, size: 20));
lblNewLabel.setVerticalAlignment(SwingConstants.TOP);
contentPane.add(lblNewLabel);
JLabel lblNewLabel_1 = new JLabel(text: "Second integer");
lblNewLabel_1.setBounds(x: 15, y: 57, width: 152, height: 60);
lblNewLabel_1.setFont(new Font(name: "Trebuchet MS", Font.PLAIN, size: 20));
contentPane.add(lblNewLabel_1);
JButton btnNewButton = new JButton(text: "ADD");
btnNewButton.setBounds(x: 25, y: 198, width: 170, height: 52);
btnNewButton.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
number1=Integer.parseInt(textField.getText());
number2=Integer.parseInt(textField_1.getText());
sum=number1+number2; textField_2.setText(sum+"");
}
});

Calculator:



Main.java SimpleForm.java SwingAdder.java

```
1   import java.awt.EventQueue;
2   import javax.swing.JFrame;
3   import javax.swing.JPanel;
4   import javax.swing.border.EmptyBorder;
5   import java.awt.GridLayout;
6   import javax.swing.JLabel;
7   import javax.swing.SwingConstants;
8   import java.awt.Font;
9   import javax.swing.JButton;
10  import java.awt.event.ActionListener;
11  import java.awt.event.ActionEvent;
12  import javax.swing.JTextField;
13
14  public class SwingAdder extends JFrame{
        15 usages
15          private JPanel contentPane;
            10 usages
16          private JTextField textField;
            10 usages
17          private JTextField textField_1;
            11 usages
18          private JTextField textField_2;
            10 usages
19          private int number1,number2;
            2 usages
20          private int sum=0,mod=0,mul=0,sub=0;
```

SwingAdder > SwingAdder


Main.java
SimpleForm.java
SwingAdder.java
private double div=0;
public static void main(String[] args) {
EventQueue.invokeLater(new Runnable() {
public void run() { try {
SwingAdder frame = new SwingAdder();
frame.setVisible(true);
}
catch (Exception e) {
e.printStackTrace();
}
}
});
}
1 usage
public SwingAdder() {
setTitle("Laiba's Calculator");
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setBounds(x: 100, y: 100, width: 417, height: 398);
contentPane = new JPanel();
contentPane.setBorder(new EmptyBorder(top: 5, left: 5, bottom: 5, right: 5));
setContentPane(contentPane);
contentPane.setLayout(null);
JLabel lblNewLabel = new JLabel(text: "First Integer");
lblNewLabel.setBounds(x: 15, y: 23, width: 152, height: 24);
lblNewLabel.setFont(new Font(name: "Trebuchet MS", Font.PLAIN, size: 20));

Main.java | SimpleForm.java | SwingAdder.java

```
42          JLabel lblNewLabel = new JLabel( text: "First Integer");
43          lblNewLabel.setBounds( x: 15,  y: 23,  width: 152,  height: 24);
44          lblNewLabel.setFont(new Font( name: "Trebuchet MS", Font.PLAIN,  size: 20));
45          lblNewLabel.setVerticalAlignment(SwingConstants.TOP);
46          contentPane.add(lblNewLabel);
47          JLabel lblNewLabel_1 = new JLabel( text: "Second integer");
48          lblNewLabel_1.setBounds( x: 15,  y: 57,  width: 152,  height: 60);
49          lblNewLabel_1.setFont(new Font( name: "Trebuchet MS", Font.PLAIN,  size: 20));
50          contentPane.add(lblNewLabel_1);
51
52          JButton btnNewButton = new JButton( text: "+");
53          btnNewButton.setFont(new Font( name: "Tahoma", Font.BOLD,  size: 17));
54          btnNewButton.setBounds( x: 15,  y: 191,  width: 152,  height: 37);
55          btnNewButton.addActionListener(new ActionListener() {
56              public void actionPerformed(ActionEvent e) {
57                  number1=Integer.parseInt(textField.getText());
58                  number2=Integer.parseInt(textField_1.getText());
59                  sum=number1+number2; textField_2.setText(sum+"");
60              }
61          });
62
63          contentPane.add(btnNewButton);
64          JLabel lblNewLabel_2 = new JLabel( text: "Result");
65          lblNewLabel_2.setBounds( x: 15,  y: 120,  width: 152,  height: 60);
66          lblNewLabel_2.setFont(new Font( name: "Trebuchet MS", Font.BOLD,  size: 20));
```

Main.java × SimpleForm.java SwingAdder.java ×

```
62
63          contentPane.add(btnNewButton);
64          JLabel lblNewLabel_2 = new JLabel( text: "Result");
65          lblNewLabel_2.setBounds( x: 15,  y: 120,  width: 152,  height: 60);
66          lblNewLabel_2.setFont(new Font( name: "Trebuchet MS", Font.BOLD,  size: 20));
67          contentPane.add(lblNewLabel_2);
68          textField = new JTextField();
69          textField.setBounds( x: 230,  y: 16,  width: 120,  height: 45);
70          contentPane.add(textField); textField.setColumns(10);
71          textField_1 = new JTextField();
72          textField_1.setBounds( x: 230,  y: 72,  width: 120,  height: 37);
73          contentPane.add(textField_1); textField_1.setColumns(10);
74          textField_2 = new JTextField();
75          textField_2.setBounds( x: 230,  y: 120,  width: 120,  height: 45);
76          contentPane.add(textField_2);
77          textField_2.setColumns(10);
78          textField_2.setEditable(false);
79          JButton btnNewButton_1 = new JButton( text: "CLEAR");
80          btnNewButton_1.setFont(new Font( name: "Tahoma", Font.BOLD,  size: 17));
81          btnNewButton_1.addActionListener(new ActionListener() {
82              public void actionPerformed(ActionEvent e) {
83                  textField.setText("");
84                  textField_1.setText("");
85                  textField_2.setText("");
86              }
```

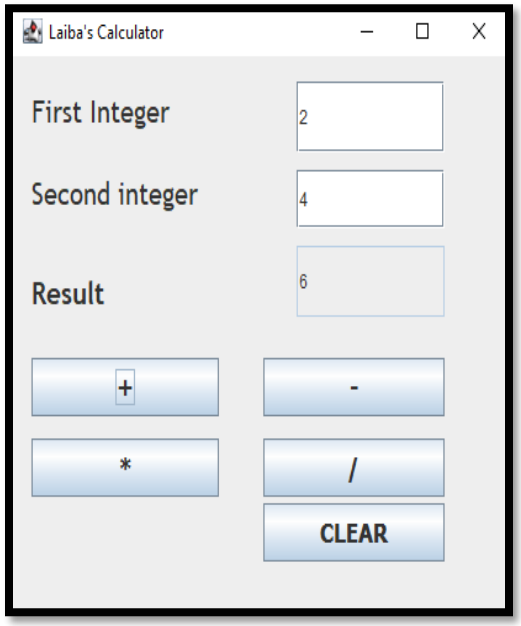
Main.java | SimpleForm.java | SwingAdder.java

```
87          });
88          btnNewButton_1.setBounds( x: 203,  y: 283,  width: 147,  height: 37);
89          contentPane.add(btnNewButton_1);
90          JButton btnNewButton_2 = new JButton( text: "-");
91          btnNewButton_2.setFont(new Font( name: "Tahoma",
92                  Font.BOLD,  size: 17)); btnNewButton_2.addActionListener(new ActionListener() {
93              public void actionPerformed(ActionEvent e) {
94                  number1=Integer.parseInt(textField.getText());
95                  number2=Integer.parseInt(textField_1.getText());
96                  sub=number1-number2; textField_2.setText(sub+"");
97              }
98          });
99          btnNewButton_2.setBounds( x: 203,  y: 191,  width: 147,  height: 37);
100         contentPane.add(btnNewButton_2);
101         JButton btnNewButton_3 = new JButton( text: "*");
102         btnNewButton_3.setFont(new Font( name: "Tahoma",
103                 Font.BOLD,  size: 17));
104         btnNewButton_3.addActionListener(new ActionListener() {
105             public void actionPerformed(ActionEvent e) {
106                 number1=Integer.parseInt(textField.getText());
107                 number2=Integer.parseInt(textField_1.getText());
108                 mul=number1*number2; textField_2.setText(mul+"");
109             }
110         });
111         btnNewButton_3.setBounds( x: 15,  y: 242,  width: 152,  height: 37);
```

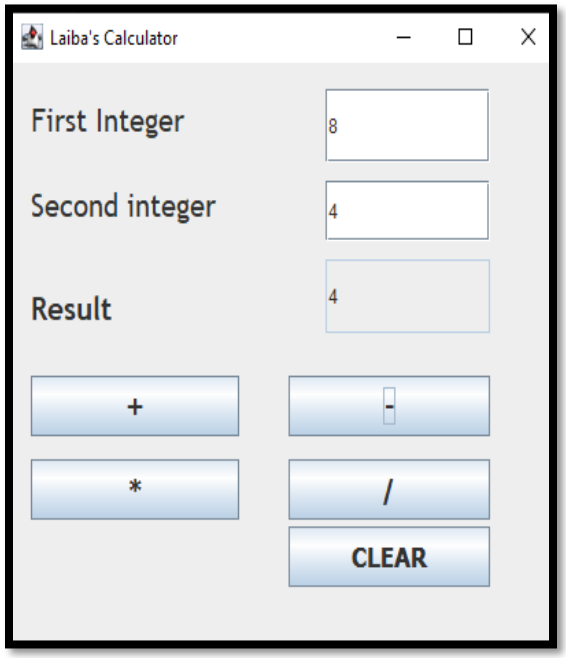
Main.java | SimpleForm.java | SwingAdder.java

```
108                 mul=number1*number2; textField_2.setText(mul+"");
109             }
110         });
111         btnNewButton_3.setBounds( x: 15,  y: 242,  width: 152,  height: 37);
112         contentPane.add(btnNewButton_3);
113         JButton btnNewButton_4 = new JButton( text: "/");
114         btnNewButton_4.setFont(new Font( name: "Tahoma", Font.BOLD,  size: 17));
115         btnNewButton_4.addActionListener(new ActionListener() {
116             public void actionPerformed(ActionEvent e) {
117                 number1=Integer.parseInt(textField.getText());
118                 number2=Integer.parseInt(textField_1.getText());
119                 div=(number1/number2); textField_2.setText(div+"");
120             }
121         });
122         btnNewButton_4.setBounds( x: 203,  y: 242,  width: 147,  height: 37);
123         contentPane.add(btnNewButton_4);
124         JButton btnNewButton_5 = new JButton( text: "%");
125         btnNewButton_5.setFont(new Font( name: "Tahoma", Font.BOLD,  size: 17));
126         btnNewButton_5.addActionListener(new ActionListener() {
127             public void actionPerformed(ActionEvent e) {
128                 number1=Integer.parseInt(textField.getText());
129                 number2=Integer.parseInt(textField_1.getText());
130                 mod=number1%number2; textField_2.setText(mod+"");
131             }
132         });
133
```

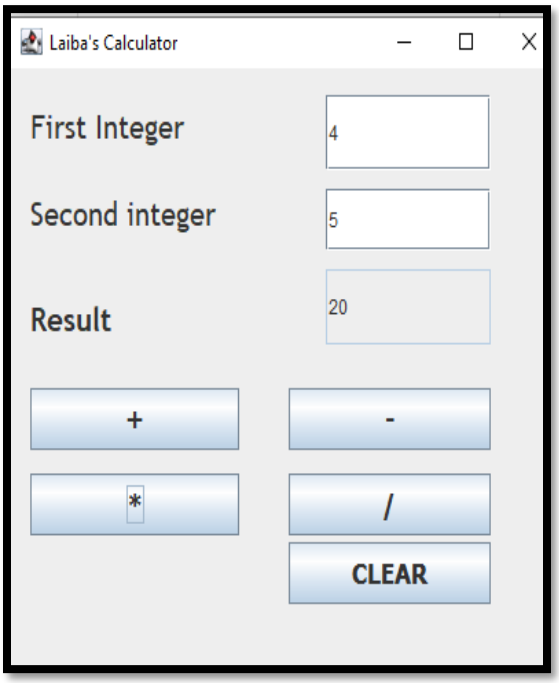
- **Add:**



- **Subtract:**



- **Multiply:**



- **Divide:**